



MSFR core fuel salt region

- Fuel salt composition: $\text{LiF-UF}_4\text{-ThF}_4$
- Incompressible Navier-Stokes with SUPG-PSPG stabilization
- Axisymmetric about the left boundary
- Inlet on the lower right corner (0.1875m wide)
- Outlet on the upper right corner (0.1875m wide)
- Boundary conditions
 - u_x
 - Top, bottom, left, right: $u_x = 0$
 - Inlet: $u_x = -5.085 \times 4 \times \left[\frac{y}{0.1875} - \left(\frac{y}{0.1875} \right)^2 \right]$
 - Outlet: $\frac{du_x}{dx} = 0$
 - u_y
 - Top, bottom, right, inlet: $u_y = 0$
 - Left, outlet: $\frac{du_y}{dx} = 0$

Parameters	Value
Density, ρ [kg cm^{-3}]	1×10^{-3}
Dynamic viscosity, μ [$\text{kg cm}^{-1} \text{s}^{-1}$]	1×10^{-3}
Volumetric flow rate [$\text{cm}^3 \text{s}^{-1}$]	4.5×10^6